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EXAMINER	
VU, THONG H	

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/020,388	SALKEWICZ, WILLIAM	
	Examiner	Art Unit	
	Thong H. Vu	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 6-30 are pending. Claims 1-5 are canceled.

Response to Arguments

2. Applicant's arguments filed 11/14/05 have been fully considered but they are not persuasive to overcome the prior art

Applicant argues the prior art does not teach "virtual network machine" or virtual network".

Examiner points out the prior art taught virtual machine database 214 connected to Internet 203 [Coile, Fig 2A, col 5 line 65-col 6 line 21]. Internet was well-known as virtual network.

Thus the rejection is sustain.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-30 are rejected under 35 U.S.C. § 103 as being unpatentable over Coile et al [Coile, 6,061,349] in view of Cisco et al [Radius Commands].

3. As per claim 6, Coile discloses A network device comprising:

at least one processor; memory I/O [Coile, CPU 14, memory 16, Fig 2B], and at least one virtual network machine in the memory, said at least one first virtual network machine including a first network interface [Coile, network interface, Ethernet interface, col 7 line 64-col 8 line 10; a plurality of virtual machines, col 8 line 45-col 9 line 15, Fig 3]; Coile also discloses a Domain Name Service [Coile, DNS, col 4 line 31], the router [Coile, col 8 line 50], Internet [Coile, Fig 2A] and

a first (sub-interface) data structure in the memory, and a first binding data structure in the memory which binds the first network interface to the first (sub-interface) data structure [Coile, col 10 lines 28-49]. However Coile does not explicitly detail the data structure is created within Local Director that stores the virtual machine using a subinterface data structure.

A skilled artisan would have motivation to improve the binding process using the data structure stored in the virtual machine [Coile, col 10 lines 27-49] and found Cisco's Configuring ATM. Cisco discloses a router using Radius commands for configure the virtual interface and the sub-interfaces [Cisco, interface subinterface name, page1]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the binding the sub-interface with the interface as taught by Cisco into the Coile's apparatus in order to utilize the binding process with data structure in the virtual machine. Doing so would provide a flexibility for sharing connection load among a group of servers over Internet [Coile, col 2 lines 24-34].

4. As per claim 7, Coile-Cisco disclose the first network interface is a layer 3 network interface; the first sub-interface data structure is a layer 2 interface data structure; and the first binding data structure is layer 2/3 binding structure which binds the first layer 3 network interface to the layer 2 interface data [Coile, a first, second and third layers, col 3 lines 50-67].

5. As per claims 8-12 contain the similar limitations set forth in claims 6. Therefore claims 8-10 are rejection for the same rationale set forth claim 6.

6. As per claims 13-15 Coile-Cisco disclose eliminating the binding of the at least one network interface to the at least one sub-interface data structure, providing at least one other sub-interface data structure encoded in the electronic memory [Cisco, encryption, page 2]; binding the at least one network interface to the at least one other sub-interface data structure [Cisco, interface subinterface name, page1].

7. As per claims 16,17 Coile-Cisco disclose providing at least one other network interface encoded in the electronic memory;

binding the at least one other network interface to the at least one sub-interface data structure; wherein binding the at least one other network interface to the at least one sub-interface data structure includes creating a binding data structure that binds the at least one other network interface to the at least one sub-interface data structure [Cisco, interface subinterface name, page1]; and

eliminating the binding of the at least one network interface to the at least one sub-interface data structure while leaving the at least one network interface intact [Coile, deleted connection, col 13 lines 8-29].

8. As per claim 18, Coile-Cisco disclose A method of creating a link in a network domain comprising:

providing a network device including an electronic memory encoded with a first virtual network machine which includes at least one first network interface and with a second virtual network machine which includes at least one second network interface [Cisco, encryption page 2];

providing at least one first sub-interface data structure encoded in the electronic memory, providing at least one second sub-interface data structure encoded in the electronic memory [Cisco, encryption, page 2];

binding the at least one first network interface to the at least one first sub-interface data structure [Cisco, interface subinterface name, page1]; and

binding the at least one second network interface to the at least one second sub-interface data structure [Coile, a second set of ports, col 2 lines 4-14].

9. As per claim 19, Coile-Cisco disclose binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure; and binding the at least one second network interface to the at

least one second sub-interface data structure includes creating a second binding data structure [Coile, binding data structure, col 10 lines 28-49].

10. As per claim 20, Coile-Cisco disclose binding the at least one second network interface to the at least one first sub-interface data structure; and eliminating the binding of the at least one second network interface to the at least one second sub-interface data structure [Coile, deleted connection, col 13 lines 8-29].

11. As per claim 21, Coile-Cisco disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases [Coile, a virtual database 214,Fig 2A; database server col 8 line 60] include one or more types of control information used to manage or monitor operations, selected from the group consisting of: network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols as inherent features of database.

12. As per claim 22, Coile-Cisco disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases include control information used to manage or monitor operations [Coile, a virtual database 214,Fig 2A; database server col 8 line 60];

network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols [Coile, layer 3, col 3 lines 50-67];

binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure; and binding the at least one second network interface to the at least one second sub-interface data structure includes creating a second binding data structure [Cisco, create a PVC, page 15].

13. As per claim 23, Coile-Cisco disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases include one or more types of control information used to manage or monitor operations [Coile, a virtual database 214,Fig 2A; database server col 8 line 60],

network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols [Coile, layer 3, col 3 lines 50-67];

binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure; binding the at least one second network interface to the at least one second sub-interface data structure includes creating a second binding data structure; binding the at least one second network interface to at least one first sub-interface data structure [Cisco, create a PVC, page 15]; and

eliminating the binding of the at least one second network interface to the at least one second sub-interface data structure [Coile, deleted connection, col 13 lines 8-29].

14. As per claim 24, Coile-Cisco disclose A method of creating links between multiple subscriber end stations and multiple network domains comprising:

providing a network device including an electronic memory encoded with multiple respective virtual network machines, said respective virtual network machines including respective corresponding network databases which include respective control information that respectively imparts router functionality to corresponding respective virtual network machines [Coile, virtual machine database 214 Fig 2A; router 304, database server, Fig 3];

said respective virtual network machines respectively each including at least one respective network interface for a respective network domain [Coile, DNS, col 4 line 31];

providing respective subscriber records (i.e.: database) in an electronic memory that include respective information as to network domains to which respective subscriber end stations of respective subscribers may access [Coile, virtual machine database 214 Fig 2A; router 304, database server, Fig 3];

providing multiple respective sub-interface data structures in the electronic memory respectively associated with respective subscribers [Cisco, configure structure, page 56];

searching respective subscriber records to identify respective network domains that may be accessed by a respective subscriber end station of a respective subscriber [Coile, facilitates searching, col 10 lines 28-67]; and

creating respective binding data structures that respectively bind respective sub-interface data structures respectively associated with respective subscribers to respective network interfaces for respective network domains identified from searching respective subscriber records [Cisco, create a PVC, page 15].

15. As per claim 25, Coile-Cisco disclose providing respective subscriber authentication information and respective subscriber authorization information in respective subscriber records; providing subscriber authentication and authorization services; and authenticating and authorizing subscriber access to respective network domains using respective subscriber records and the subscriber authentication and authorization services as inherent features of authority [Coile, authority, col 4 line 2].

16. As per claim 26, Coile-Cisco disclose the multiple respective sub-interface data structures include multiple respective virtual circuits [Coile, a plurality of virtual machine, col 9 line 10].

17. As per claim 27, Coile-Cisco disclose providing in respective subscriber records multiple possible network domain binding options for a respective subscriber [Coile DNS, col 4 line 31].

18. As per claim 28, Coile-Cisco disclose information in respective subscriber records identify multiple respective possible network domains to which respective subscriber end stations of respective subscribers may be bound; and Information in respective subscriber records provide respective criteria for selecting between multiple respective network domains for a respective subscriber [Coile DNS, col 4 line 31].

19. As per claim 29, Coile-Cisco disclose A subscriber management system comprising:

a network device including an electronic memory encoded with multiple respective virtual network machines in the memory, said respective virtual network machines including corresponding respective network databases which include respective control information that respectively imparts router functionality to corresponding respective virtual network machines, said respective virtual network machines respectively including at least one respective network interface to a respective network domain [Coile DNS, col 4 line 31]

respective subscriber records in an electronic memory that include respective information as to network domains to which respective subscriber end stations of respective subscribers may be bound [Coile, virtual machine database 214 Fig 2A; router 304, database server, Fig 3];

multiple respective sub-interface data structures in the electronic memory respectively associated with respective subscribers [Cisco, interface subinterface name, page1];

a computer program in electronic memory that searches respective subscriber records to identify respective network domains that may be accessed by respective subscriber ends stations of respective subscribers [Coile DNS, col 4 line 31]; and

respective binding data structures that respectively bind respective sub-interface data structures associated with respective subscribers to respective network interfaces to respective network domains identified from searching respective subscriber records [Coile, facilitates searching, col 10 lines 28-67].

20. As per claim 30, Coile-Cisco disclose information in respective subscriber records identify multiple respective possible network domains to which respective subscriber end stations of respective subscribers may be bound; and information in respective subscriber records provide respective criteria for selecting between multiple respective network domains for respective subscribers [Coile DNS, col 4 line 31].

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thong Vu*, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 6:00AM- 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Andrew Caldwell*, can be reached at (571) 272-3868. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIRI system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thong Vu
Primary Examiner
Art Unit 2142